IN THE CLAIMS:

1. (Currently Amended) A method for producing hollow polyhedral fine particles ~~consisting of~~ having atoms of a first element and atoms of a second element, wherein atoms of said first element and atoms of said second element are structured in a reversed micelle composed of a surfactant.

2. (Currently Amended) A method for producing hollow polyhedral fine particles ~~consisting of~~ having atoms of a first element and atoms of a second element, said method comprising the steps ~~described below~~ of:

a first step of dissolving or dispersing a surfactant, a compound containing atoms of said first element, and a compound containing atoms of said second element, in an aqueous medium to obtain an aqueous solution or an aqueous dispersion;

a second step of adding an oily medium to said aqueous solution or dispersion to obtain a double phase contacting liquid in which an aqueous phase and an oily phase directly contact;

a third step of forming reversed micelles composed of said surfactant in said oily phase of said double phase contacting liquid; and

a fourth step of structuring atoms of said first element and atoms of said second element in said reversed micelles to obtain hollow polyhedral fine particles.

3. (Original) The method for producing hollow polyhedral fine particles according to claim 2, further comprising a fifth step of separating and recovering said hollow polyhedral fine particles from said oily phase, after said fourth step.

4. (Currently Amended) The method for producing hollow polyhedral fine particles according to ~~any one of claims 1 to 3~~ claim 2, wherein said first element and said second element are the same element.

5. (Currently Amended) The method for producing hollow polyhedral fine particles according to ~~any one of claims 1 to 3~~ claim 2, wherein said first element and said second element are different elements.

6. (Original) The method for producing hollow polyhedral fine particles according to claim 5, wherein said first element is Cd, and said second element is Se.

7. (Original) A hollow polyhedral fine particle represented by the following chemical formula: $(CdSe)_{33}$ or $(CdSe)_{34}$.

Please add the following new claims:

8. (New) The method for producing hollow polyhedral fine particles according to claim 1, wherein said first element and said second element are the same element.

9. (New) The method for producing hollow polyhedral fine particles according to claim 1, wherein said first element and said second element are different elements.

10. (New) The method for producing hollow polyhedral fine particles according to claim 9, wherein said first element is Cd, and said second element is Se.

11. (New) A hollow polyhedral fine particle comprising:

atoms of a first element, and

atoms of a second element,

wherein atoms of said first element and atoms of said second element are structured in a reversed micelle composed of a surfactant.

12. (New) A hollow polyhedral fine particle according to claim 11, wherein said first element and said second element are the same element.

13. (New) A hollow polyhedral fine particle according to claim 11, wherein said first element and said second element are different elements.

14. (New) A hollow polyhedral fine particle according to claim 13, wherein said first element is Cd, and said second element is Se.

15. (New) A hollow polyhedral fine particle according to claim 13, wherein said first element is selected from the group of Group II to Group VI elements.

16. (New) A hollow polyhedral fine particle according to claim 15, wherein said first element is selected from the group of Group II elements.

17. (New) A hollow polyhedral fine particle according to claim 16, wherein said first element is selected from the group of Cd and Zn.

18. (New) A hollow polyhedral fine particle according to claim 15, wherein said second element is selected from the group of Group II to Group II to Group VI elements.

19. (New) A hollow polyhedral fine particle according to claim 18, wherein said second element is selected from the group of Group VI elements.

20. (New) A hollow polyhedral fine particle according to claim 19, wherein said second element is selected from the group of S, Se, and Te.